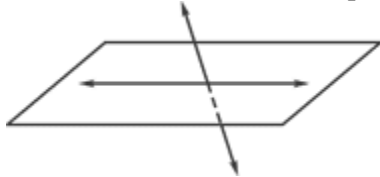


## Geometry Midterm Review

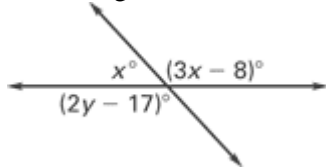
### Multiple Choice

Identify the choice that best completes the statement or answers the question.

1. Which statement(s) may be true about the two lines shown in the diagram?
- I. The lines are coplanar.
  - II. The lines are parallel.
  - III. The lines intersect in one point.



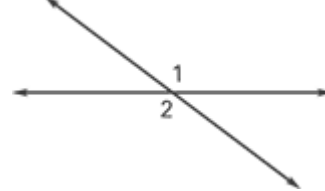
- a. I only
  - b. I and II only
  - c. II and III only
  - d. I and III only
  - e. I, II, and III
2. What is the distance between point  $A(-3, 2)$  and point  $B(5, -1)$ ?
- a. 2.2
  - b. 73
  - c. 8.5
  - d. 11
  - e. 5
3. In the diagram, what are the values of  $x$  and  $y$ ?



- a.  $x = 47, y = 75$
  - b.  $x = 47, y = 74$
  - c.  $x = 75, y = 47$
  - d.  $x = 71, y = 51$
  - e.  $x = 45, y = 77$
4.  $\angle A$  and  $\angle T$  are complementary. The measure of  $\angle T$  is three times the measure of  $\angle A$ . What is  $m\angle A$ ?
- a.  $22^\circ$
  - b.  $22.5^\circ$
  - c.  $23^\circ$
  - d.  $24^\circ$

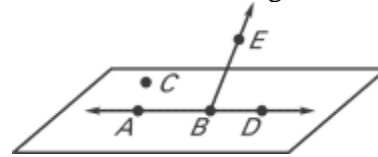
e.  $23.5^\circ$

5.  $\angle 1$  and  $\angle 2$  in the diagram are \_\_\_\_?



- a. vertical angles
  - b. complementary
  - c. a linear pair
  - d. supplementary
6. Given points  $G(2, 10)$  and  $H(-6, -10)$ , find the coordinates of the midpoint of  $\overline{GH}$ .
- a.  $(-2, 10)$
  - b.  $(-4, 0)$
  - c.  $(-2, 0)$
  - d.  $(8, 20)$
  - e.  $(-4, -10)$

7. Which of the following statements is false?



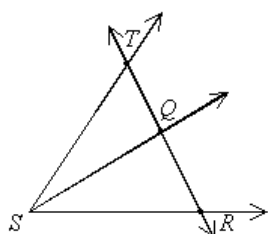
- a.  $A, B, C$ , and  $D$  are coplanar.
  - b.  $A, B$ , and  $D$  are collinear.
  - c.  $\overrightarrow{BE}$  and  $\overrightarrow{BA}$  are opposite rays.
  - d. Answers B and C only
  - e. Answers A, B, and C
8. Given  $\angle BAD$ , and a third ray  $AC$  in the interior of  $\angle BAD$ , if  $m\angle BAC = 129^\circ$  and  $m\angle CAD = 51^\circ$ , then the two angles are \_\_\_\_?
- a. supplementary
  - b. complementary
  - c. a linear pair

- d. supplementary and a linear pair
- e. complementary and a linear pair

9.  $T$  is the midpoint of  $\overline{PQ}$ . Which one of the following is *not* an appropriate statement?

- a.  $\overline{PT} = \overline{TQ}$
- b.  $\overline{PT} = \overline{TQ}$
- c.  $\overline{PT} \cong \overline{TQ}$
- d.  $PT + TQ = PQ$

10. Name three points that are collinear.



- a. points  $T$ ,  $Q$ , and  $R$
- b. points  $T$ ,  $Q$ , and  $S$
- c. points  $S$ ,  $Q$ , and  $R$
- d. points  $T$ ,  $S$ , and  $R$

11.  $\overrightarrow{PR}$  is represented by which sketch?

- a.
- b.
- c.
- d.

12. Draw a labeled diagram for a line.

a.



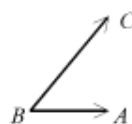
b.



c.



d.

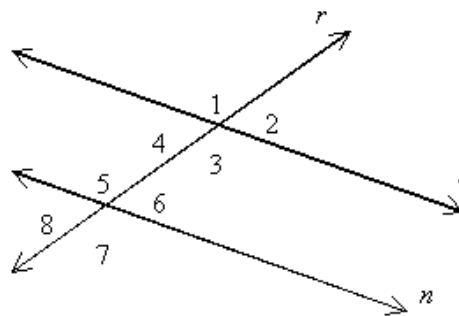


13. Which is *not* a possible value for  $y$  in the figure below?



- a. 70
- b. 115
- c. 55
- d. 160

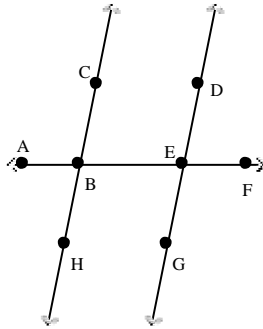
14. In the figure,  $l \parallel n$  and  $r$  is a transversal. Which of the following is not necessarily true?



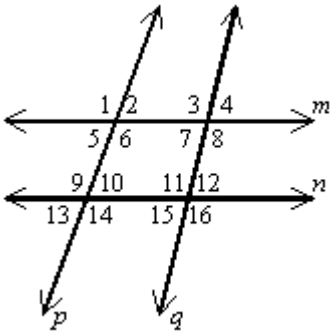
- a.  $\angle 8 \cong \angle 2$
- b.  $\angle 2 \cong \angle 6$

- c.  $\angle 5 \cong \angle 3$
- d.  $\angle 7 \cong \angle 4$

15. In the figure shown,  $\overleftrightarrow{HC} \parallel \overleftrightarrow{GD}$  and  $m\angle ABC = 100^\circ$ . Which of the following statements is false?



- a.  $m\angle CBE = 80^\circ$
  - b.  $m\angle DEF = 80^\circ$
  - c.  $\angle DEB$  and  $\angle CBE$  are corresponding angles.
  - d.  $\angle CBE$  and  $\angle GEB$  are alternate interior angles.
16. Line  $m$  is parallel to line  $n$  and they are each intersected by the same two transversals. Which angle is NOT necessarily congruent to  $\angle 4$ ?



- a.  $\angle 12$
  - b.  $\angle 16$
  - c.  $\angle 7$
  - d.  $\angle 15$
17. A triangle has angle measures of  $60^\circ$ ,  $60^\circ$ , and  $60^\circ$ . Choose the term that describes the triangle.
- a. Equiangular
  - b. Right
  - c. Obtuse

- d. Scalene

18. Which pair of lengths can be two of the sides of an isosceles triangle which has a perimeter of 52 inches?

- a. 15 inches, 25 inches
- b. 15 inches, 22 inches
- c. 12 inches, 22 inches
- d. 16 inches, 21 inches

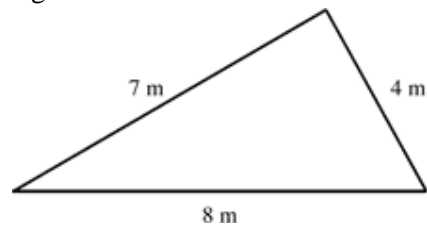
19. If  $\triangle ABC \cong \triangle DEF$ ,  $AB = 10$  feet,  $m\angle B = 27^\circ$ , and  $m\angle F = 14^\circ$ , which of the following statements is false?

- a.  $AC = DF$
- b.  $\angle C \cong \angle F$
- c.  $m\angle E = 139^\circ$
- d.  $AB = DE$

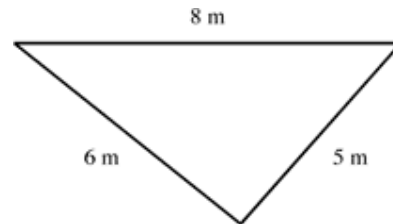
20. If  $\triangle MNO \cong \triangle VWX$ , which statement is NOT true?

- a.  $\overline{NO} \cong \overline{VW}$
- b.  $\angle O \cong \angle X$
- c.  $\overline{MO} \cong \overline{VX}$
- d.  $\angle N \cong \angle W$

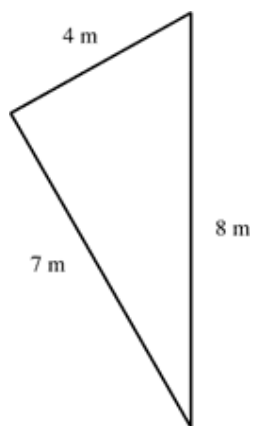
21. Determine which triangle is congruent to the given triangle.



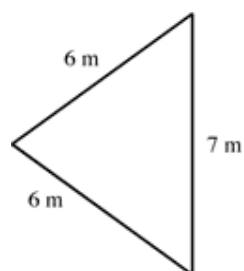
- a. none of these
- b.



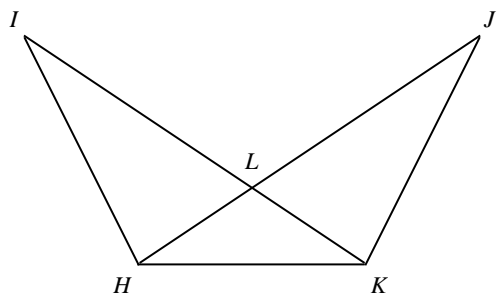
c.



d.



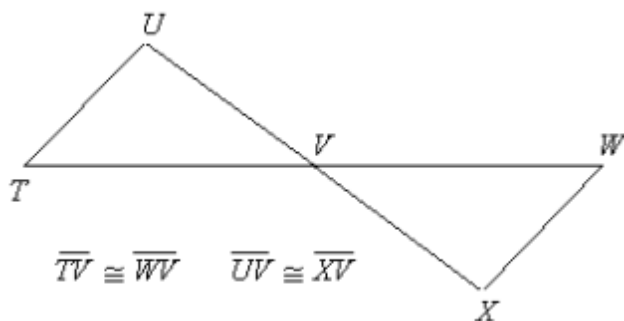
22. Refer to the figure below. Which of the following statements is true?



$\triangle HLK$  is isosceles with base  $\overline{HK}$ ,  $\angle IHL$  and  $\angle JKL$  are right angles,  $\overline{IK} \cong \overline{JH}$

- a.  $\triangle HIL \cong \triangle KJL$  by HL
- b.  $\triangle HLK \cong \triangle JLK$  by SSS
- c.  $\triangle HKI \cong \triangle HJK$  by SAS
- d. There are no congruent triangles.

23. Refer to the figure shown. Which of the following statements is true?



- a.  $\triangle TUV \cong \triangle XWV$  by ASA
  - b.  $\triangle TUV \cong \triangle VWX$  by SAS
  - c.  $\triangle TUV \cong \triangle WXV$  by SAS
  - d.  $\triangle TUV \cong \triangle WXV$  by SSS
24. In  $\triangle ABC$ ,  $AB = 3x - 2$ ,  $BC = x + 4$ , and  $AC = 7$ . Also  $\overline{AB} \cong \overline{BC}$ . Which term does NOT describe  $\triangle ABC$ ?
- a. Equilateral
  - b. Acute
  - c. Isosceles
  - d. Obtuse

25. Given:  $\triangle ABC \cong \triangle DEF$  with  $\overline{AB} \cong \overline{BC}$ . Which statement of congruence is not provable?

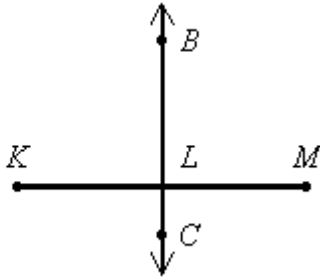
a.  $\triangle ABC \cong \triangle CBA$

b.  $\triangle DEF \cong \triangle CBA$

c.  $\triangle ABC \cong \triangle FDE$

d.  $\triangle ABC \cong \triangle FED$

26. Given:  $\overleftrightarrow{BC}$  is the perpendicular bisector of  $\overline{KM}$ . Which statement is true?



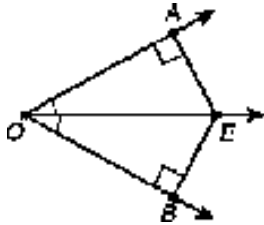
a.  $\angle BLM, \angle MLC, \angle CLK, \angle KLB$  are all right angles.

b.  $CM = BM$

c.  $\angle KBM$  is a right angle.

d.  $C$  is the midpoint of  $\overline{KM}$

27.  $\overrightarrow{OE}$  bisects  $\angle BOA$ ,  $\overline{EA} \perp \overline{OA}$ , and  $\overline{EB} \perp \overline{OB}$ . Which statement is NOT true?



a.  $\overline{AE} \cong \overline{BE}$

b.  $\angle AOE \cong \angle EAO$

c.  $\overline{OA} \cong \overline{OB}$

d.  $\angle AEO \cong \angle BEO$

28. Which side lengths allow you to construct a triangle?

a. 2, 3, and 8

b. 4, 1, and 9

c. 7, 2, and 2

d. 6, 8, and 10

29. Two sides of a triangle have lengths 7 and 13. The third side has a length that is \_\_\_\_\_.

a. greater than 6 and less than 13

b. less than 20 and greater than 6

c. greater than 20

d. less than 6

30. Which of these lengths could be the sides of a triangle?

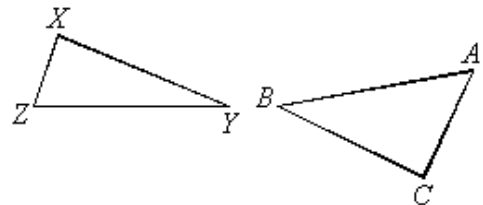
a. 15 cm, 4 cm, 20 cm

b. 3 cm, 15 cm, 20 cm

c. 11 cm, 5 cm, 16 cm

d. 5 cm, 12 cm, 16 cm

31. Given the triangles below, if  $\overline{ZY} \cong \overline{CB}$ ,  $\overline{XY} \cong \overline{AB}$ , and  $m\angle B > m\angle Y$ , decide which statement is true.



a.  $YZ > BC$

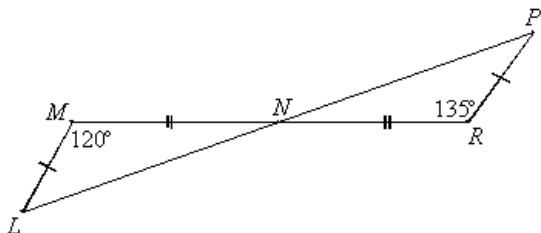
b.  $XZ < AC$

c.  $XY < AB$

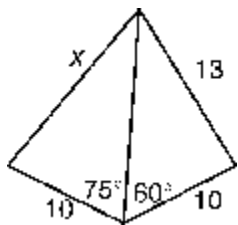
d.  $AC < XZ$

32. In  $\triangle PQR$  and  $\triangle EGF$ ,  $\overline{PR} \cong \overline{EF}$ ,  $\overline{QR} \cong \overline{GF}$ ,  $PQ = 18$  cm,  $EG = 24$  cm, and  $m\angle R = 65^\circ$ . Which angle measure is reasonable for  $\angle F$ ?
- a.  $55^\circ$
33. Which statement is false for the diagram?

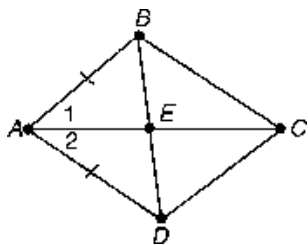
- b.  $65^\circ$   
c.  $70^\circ$   
d.  $60^\circ$



- a.  $MN = NR$       b.  $LM = PR$       c.  $LN < NP$       d.  $LN > NP$
34. Refer to the figure. Choose the correct statement.



- a.  $x < 10$   
b.  $10 < x < 13$   
c.  $x > 13$   
d.  $x = 13$
35. Refer to the figure below.



Given:  $AB = AD$ ,  $m\angle 1 > m\angle 2$ . Then, \_\_\_\_\_.

- a.  $BE > ED$   
b.  $BE < ED$   
c.  $AE = EC$   
d.  $BE = ED$

36. If  $\frac{P}{Q} = \frac{R}{S}$ , which of the following is NOT true?

- a.  $\frac{R}{S} = \frac{P}{Q}$   
b.  $PS = RQ$   
c.  $\frac{Q}{P} = \frac{S}{R}$   
d.  $PR = SQ$

37. If  $\frac{a}{b} = \frac{c}{d}$ , then \_\_\_\_\_.

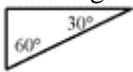
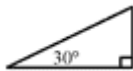
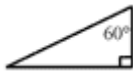

- a.  $\frac{a+b}{b} = \frac{c+d}{d}$   
b.  $ac = bd$   
c.  $\frac{a+b}{b} = \frac{c+d}{d}$   
d.  $\frac{a}{b} = \frac{a+c}{b+d}$

38. The Community Recreation Center is developing plans for a new sports facility. Community members can submit suggestions for the new facility, along with basic scale drawings of their ideas. Rachel wants to include a new 11- by 24-meter tennis court in the athletic center. She is submitting a scale drawing on an 8.5- by 11-inch sheet of paper. Which scale should Rachel use to create as large a drawing as possible on the paper?

- a.  $\frac{3}{8}$  in. = 1 m

- b.  $\frac{3}{4}$  in. = 1 m
- c.  $\frac{1}{8}$  in. = 1 m
- d.  $\frac{7}{16}$  in. = 1 m

39. Which triangle is NOT similar to any of the others?

- a. 
- b. 
- c. 
- d. 

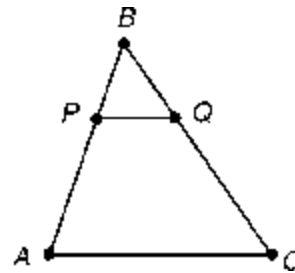
40. One way to show that two triangles are similar is to show that \_\_\_\_\_.

- a. two angles of one are congruent to two angles of the other
- b. two sides of one are proportional to two sides of the other
- c. a side of one is congruent to a side of the other
- d. an angle of one is congruent to an angle of the other

41. If the corresponding sides of two triangles are proportional, then \_\_\_\_\_.

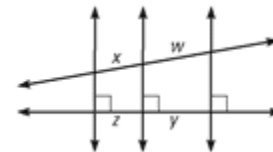
- a. the triangles are right triangles
- b. the triangles are similar
- c. corresponding side lengths are equal
- d. the triangles are congruent

42. If  $\triangle ABC \sim \triangle PBQ$ , then which of the following proportions is NOT true?



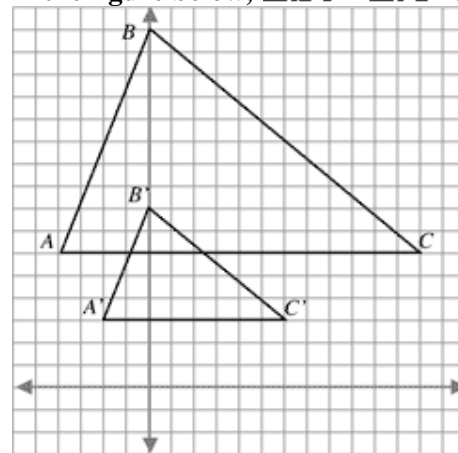
- a.  $\frac{AC}{PQ} = \frac{CB}{QB}$
- b.  $\frac{AP}{PB} = \frac{AC}{PQ}$
- c.  $\frac{AP}{PB} = \frac{CQ}{QB}$
- d.  $\frac{PB}{AB} = \frac{PQ}{AC}$

43. For the figure shown, which statement is *not* true?



- a.  $\frac{w}{y} = \frac{x}{z}$
- b.  $wx = yz$
- c.  $wz = xy$
- d.  $\frac{w}{x} = \frac{y}{z}$

In the figure below,  $\triangle ABC \sim \triangle A'B'C'$ .



44. Which statement is true of the transformation from  $\triangle ABC$  to  $\triangle A'B'C'$ ?

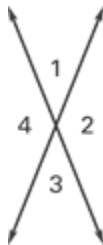
- The measures of all corresponding angles change by a scale factor of 2.
- The measures of all corresponding angles change by a scale factor of  $\frac{1}{2}$ .

- The lengths of all corresponding sides change by a scale factor of 2.
- The lengths of all corresponding sides change by a scale factor of  $\frac{1}{2}$ .

### Completion

Complete each statement.

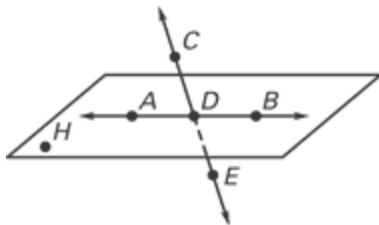
Use the diagram to solve for the missing angle measure.



- If  $m\angle 3 = 25^\circ$ , then  $m\angle 4 =$  \_\_\_\_\_.
- If  $m\angle 2 = 78^\circ$ , then  $m\angle 1 =$  \_\_\_\_\_.

### Short Answer

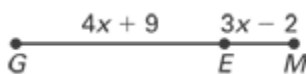
Use the diagram.



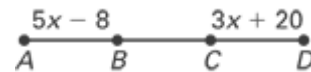
- Name three noncollinear points
- Name four noncoplanar points
- Name two intersecting lines
- Name three collinear points

Solve for the variable using the given information.

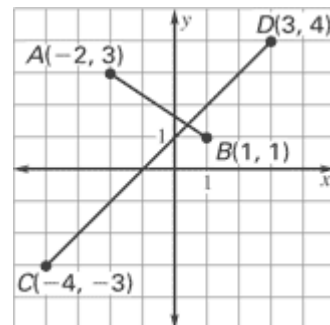
- Given:  $GM = 28$



- Given:  $\overline{AB} \cong \overline{CD}$

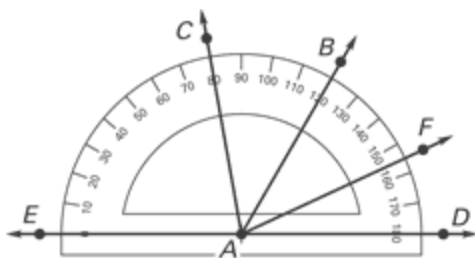


Find the length of the segment. Round decimals to the nearest tenth.



- $\overline{CD}$
- $\overline{AB}$

Use the diagram to find the measure of the angle. State what type of angle is formed.



9.  $\angle CAF$

10.  $\angle BAD$

11.  $\angle EAD$

12.  $\angle EAB$

Find the coordinates of the midpoint of a segment with the given endpoints.

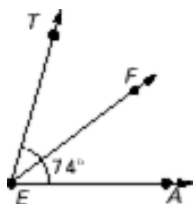
13.  $A(0,0), B(0,-12)$

14.  $C(2,9), D(-2,-1)$

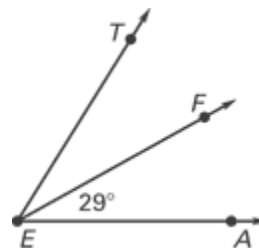
15.  $E(-3,-3), F(9,-15)$

Use the diagram where  $\overrightarrow{EF}$  is the angle bisector of  $\angle TEA$ .

16. Given  $m\angle TEA = 74^\circ$ , find  $m\angle TEF$  and  $m\angle FEA$ .

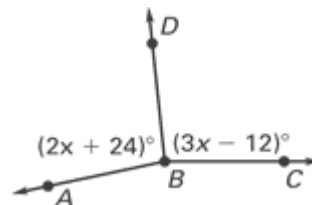


17. Given  $m\angle FEA = 29^\circ$ , find  $m\angle TEF$  and  $m\angle TEA$ .

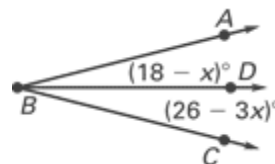


Find the value of  $x$ .

18.  $\overrightarrow{BD}$  bisects  $\angle ABC$ .



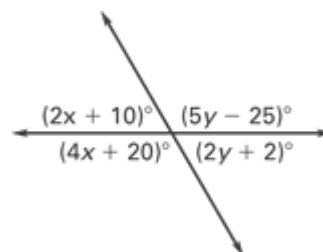
19.  $\overrightarrow{BD}$  bisects  $\angle ABC$ .



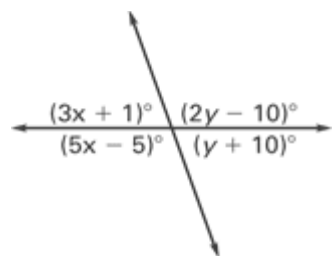
20.  $\angle A$  and  $\angle B$  are supplementary. The measure of  $\angle B$  is five times the measure of  $\angle A$ . Find  $m\angle A$  and  $m\angle B$ .

Find the values of the variables.

21.



22.



## Midterm Review Answer Section

### MULTIPLE CHOICE

1. ANS: D                      PTS: 1                      DIF: Level B                      REF: G1.01.EN.ST.01  
TOP: SAT/ACT Chapter Test                      KEY: SAT/ACT | Geometric Properties  
BLM: Analysis                      NOT: 978-0-618-65613-4
2. ANS: C                      PTS: 1                      DIF: Level B                      REF: G1.01.EN.ST.02  
STA: VA.VASOL.MTH.01.GEO.G.2.a                      TOP: SAT/ACT Chapter Test  
KEY: SAT/ACT | Distance formula                      BLM: Comprehension  
NOT: 978-0-618-65613-4
3. ANS: A                      PTS: 1                      DIF: Level B                      REF: G1.01.EN.ST.03  
TOP: SAT/ACT Chapter Test                      KEY: SAT/ACT | Line Intersection  
BLM: Application                      NOT: 978-0-618-65613-4
4. ANS: B                      PTS: 1                      DIF: Level B                      REF: G1.01.EN.ST.04  
STA: VA.VASOL.MTH.01.GEO.G.3                      TOP: SAT/ACT Chapter Test  
KEY: SAT/ACT | Complementary Angles                      BLM: Application  
NOT: 978-0-618-65613-4
5. ANS: A                      PTS: 1                      DIF: Level A                      REF: G1.01.EN.ST.05  
TOP: SAT/ACT Chapter Test                      KEY: SAT/ACT | Vertical Angles  
BLM: Knowledge                      NOT: 978-0-618-65613-4
6. ANS: C                      PTS: 1                      DIF: Level A                      REF: G1.01.EN.ST.06  
STA: VA.VASOL.MTH.01.GEO.G.2.a                      TOP: SAT/ACT Chapter Test  
KEY: SAT/ACT | Midpoint                      BLM: Comprehension  
NOT: 978-0-618-65613-4
7. ANS: C                      PTS: 1                      DIF: Level B                      REF: G1.01.EN.ST.07  
TOP: SAT/ACT Chapter Test                      KEY: SAT/ACT | Coplanar | Collinear  
BLM: Analysis                      NOT: 978-0-618-65613-4
8. ANS: D                      PTS: 1                      DIF: Level B                      REF: G1.01.EN.ST.08  
TOP: SAT/ACT Chapter Test                      KEY: SAT/ACT | Supplementary Angles | Linear Pairs  
BLM: Analysis                      NOT: 978-0-618-65613-4
9. ANS: B                      PTS: 1                      DIF: Level B                      REF: MGEH0006  
STA: VA.VASOL.MTH.01.GEO.G.11                      TOP: Lesson 1.3 Use Midpoint and Distance Formulas  
KEY: midpoint                      BLM: Comprehension                      NOT: 978-0-618-65613-4
10. ANS: A                      PTS: 1                      DIF: Level A                      REF: MLGE0084  
TOP: Lesson 1.1 Identify Points, Lines, and Planes                      KEY: points | collinear  
BLM: Comprehension                      NOT: 978-0-618-65613-4
11. ANS: C                      PTS: 1                      DIF: Level A                      REF: MHGT0077  
TOP: Lesson 1.1 Identify Points, Lines, and Planes                      KEY: identify | ray  
BLM: Knowledge                      NOT: 978-0-618-65613-4
12. ANS: A                      PTS: 1                      DIF: Level A                      REF: MHGM0506  
STA: VA.VASOL.MTH.01.GEO.G.11                      TOP: Lesson 1.1 Identify Points, Lines, and Planes  
KEY: line | angle | draw | segment | ray                      BLM: Knowledge                      NOT: 978-0-618-65613-4
13. ANS: C                      PTS: 1                      DIF: Level B                      REF: MIM20664  
STA: VA.VASOL.MTH.01.GEO.G.3                      TOP: Lesson 1.5 Describe Angle Pair Relationships  
KEY: angle measure | supplementary angles | straight angle                      BLM: Synthesis  
NOT: 978-0-618-65613-4
14. ANS: D                      PTS: 1                      DIF: Level B                      REF: MGEH0026

- NAT: NCTM 9-12.GEO.1.a  
 STA: VA.VASOL.MTH.01.GEO.G.3 | VA.VASOL.MTH.01.GEO.G.4  
 TOP: Lesson 3.2 Use Parallel Lines and Transversals KEY: parallel | transversal  
 BLM: Analysis NOT: 978-0-618-65613-4
15. ANS: C PTS: 1 DIF: Level B REF: MLGE0207  
 NAT: NCTM 9-12.GEO.1.a  
 STA: VA.VASOL.MTH.01.GEO.G.3 | VA.VASOL.MTH.01.GEO.G.4  
 TOP: Lesson 3.2 Use Parallel Lines and Transversals KEY: angles | parallel lines | transversal  
 BLM: Analysis NOT: 978-0-618-65613-4
16. ANS: B PTS: 1 DIF: Level B REF: MCT90022  
 NAT: NCTM 9-12.GEO.1.a  
 STA: VA.VASOL.MTH.01.GEO.G.3 | VA.VASOL.MTH.01.GEO.G.4  
 TOP: Lesson 3.2 Use Parallel Lines and Transversals  
 KEY: vertical | angle | parallel | transversal | congruent | corresponding  
 BLM: Analysis NOT: 978-0-618-65613-4
17. ANS: A PTS: 1 DIF: Level A REF: HLGM0266  
 NAT: NCTM 9-12.GEO.1.a TOP: Lesson 4.1 Apply Triangle Sum Properties  
 KEY: angle | acute | triangle | measure BLM: Knowledge NOT: 978-0-618-65613-4
18. ANS: B PTS: 1 DIF: Level B REF: MC100123  
 TOP: Lesson 4.1 Apply Triangle Sum Properties KEY: triangle | perimeter | side | isosceles  
 BLM: Application NOT: 978-0-618-65613-4
19. ANS: C PTS: 1 DIF: Level B REF: DJAM1027  
 NAT: NCTM 9-12.GEO.1.b STA: VA.VASOL.MTH.01.GEO.G.5.a  
 TOP: Lesson 4.2 Apply Congruence and Triangles KEY: triangles | congruent  
 BLM: Comprehension NOT: 978-0-618-65613-4
20. ANS: A PTS: 1 DIF: Level B REF: MCT90021  
 TOP: Lesson 4.2 Apply Congruence and Triangles KEY: triangle | congruent  
 BLM: Comprehension NOT: 978-0-618-65613-4
21. ANS: C PTS: 1 DIF: Level B REF: MGCS0293  
 TOP: Lesson 4.3 Prove Triangles Congruent by SSS KEY: triangle | congruent  
 BLM: Comprehension NOT: 978-0-618-65613-4
22. ANS: A PTS: 1 DIF: Level B REF: MLGE0231  
 TOP: Lesson 4.4 Prove Triangles Congruent by SAS and HL KEY: triangle | congruence  
 BLM: Comprehension
23. ANS: C PTS: 1 DIF: Level B REF: MLGE0234  
 TOP: Lesson 4.4 Prove Triangles Congruent by SAS and HL  
 KEY: triangle | parallel lines | congruence | ASA | SAS BLM: Comprehension  
 NOT: 978-0-618-65613-4
24. ANS: D PTS: 1 DIF: Level C REF: HLGM0274  
 NAT: NCTM 9-12.REP.2 | NCTM 9-12.PRS.3 | NCTM 9-12.GEO.1.a  
 STA: VA.VASOL.MTH.01.GEO.G.11 TOP: Lesson 4.7 Use Isosceles and Equilateral Triangles  
 KEY: triangle | segment | congruent BLM: Comprehension  
 NOT: 978-0-618-65613-4
25. ANS: C PTS: 1 DIF: Level C REF: HLGM0315  
 STA: VA.VASOL.MTH.01.GEO.G.5.a | VA.VASOL.MTH.01.GEO.G.5.b  
 TOP: Lesson 4.7 Use Isosceles and Equilateral Triangles KEY: triangle | segment | congruent  
 BLM: Comprehension NOT: 978-0-618-65613-4
26. ANS: A PTS: 1 DIF: Level B REF: MHGM0083  
 STA: VA.VASOL.MTH.01.GEO.G.11 TOP: Lesson 5.2 Use Perpendicular Bisectors  
 KEY: perpendicular bisector BLM: Comprehension

- NOT: 978-0-618-65613-4
27. ANS: B PTS: 1 DIF: Level B REF: HLGM0344  
 TOP: Lesson 5.3 Use Angle Bisectors of Triangles KEY: angle | triangle | perpendicular | bisect  
 BLM: Comprehension NOT: 978-0-618-65613-4
28. ANS: D PTS: 1 DIF: Level B REF: MLGE0059  
 STA: VA.VASOL.MTH.01.GEO.G.6 TOP: Lesson 5.5 Use Inequalities in a Triangle  
 KEY: property | triangle BLM: Comprehension  
 NOT: 978-0-618-65613-4
29. ANS: B PTS: 1 DIF: Level B REF: MLGE0348  
 STA: VA.VASOL.MTH.01.GEO.G.6 TOP: Lesson 5.5 Use Inequalities in a Triangle  
 KEY: triangle | inequality theorem BLM: Application NOT: 978-0-618-65613-4
30. ANS: D PTS: 1 DIF: Level B REF: PHGM0418  
 STA: VA.VASOL.MTH.01.GEO.G.6 TOP: Lesson 5.5 Use Inequalities in a Triangle  
 KEY: triangle inequality BLM: Comprehension  
 NOT: 978-0-618-65613-4
31. ANS: B PTS: 1 DIF: Level B REF: MLGE0060  
 TOP: Lesson 5.6 Inequalities in Two Triangles and Indirect Proof  
 KEY: triangle | congruent | Hinge Theorem BLM: Comprehension  
 NOT: 978-0-618-65613-4
32. ANS: C PTS: 1 DIF: Level B REF: MLGE0061  
 TOP: Lesson 5.6 Inequalities in Two Triangles and Indirect Proof  
 KEY: triangle | congruent | Hinge Theorem BLM: Comprehension  
 NOT: 978-0-618-65613-4
33. ANS: D PTS: 1 DIF: Level B REF: MGEO0009  
 TOP: Lesson 5.6 Inequalities in Two Triangles and Indirect Proof  
 KEY: triangle | congruent | Hinge Theorem BLM: Comprehension  
 NOT: 978-0-618-65613-4
34. ANS: C PTS: 1 DIF: Level B REF: HLGM0411  
 TOP: Lesson 5.6 Inequalities in Two Triangles and Indirect Proof  
 KEY: triangle | Hinge Theorem BLM: Comprehension  
 NOT: 978-0-618-65613-4
35. ANS: A PTS: 1 DIF: Level A REF: HLGM0410  
 TOP: Lesson 5.6 Inequalities in Two Triangles and Indirect Proof  
 KEY: compare | triangle | measure BLM: Knowledge NOT: 978-0-618-65613-4
36. ANS: D PTS: 1 DIF: Level B REF: HLGM0609  
 TOP: Lesson 6.1 Ratios, Proportions, and Geometric Mean KEY: proportion  
 BLM: Comprehension NOT: 978-0-618-65613-4
37. ANS: C PTS: 1 DIF: Level A REF: HLGM0611  
 TOP: Lesson 6.2 Use Proportions to Solve Geometry Problems KEY: solve | proportion  
 BLM: Knowledge NOT: 978-0-618-65613-4
38. ANS: D PTS: 1 DIF: Level B REF: AXG80675  
 NAT: NCTM 9-12.MEA.1.a STA: VA.VASOL.MTH.01.GEO.G.12  
 TOP: Lesson 6.2 Use Proportions to Solve Geometry Problems KEY: ratio | word | proportion | scale  
 BLM: Application NOT: 978-0-618-65613-4
39. ANS: D PTS: 1 DIF: Level B REF: MLGE0169  
 NAT: NCTM 9-12.GEO.1.b TOP: Lesson 6.4 Prove Triangles Similar by AA  
 KEY: similar | triangle BLM: Comprehension  
 NOT: 978-0-618-65613-4
40. ANS: A PTS: 1 DIF: Level B REF: HLGM0641

- TOP: Lesson 6.5 Prove Triangles Similar by SSS and SAS KEY: similar | triangle | rule  
 BLM: Knowledge NOT: 978-0-618-65613-4
41. ANS: B PTS: 1 DIF: Level A REF: HLGM0644  
 TOP: Lesson 6.5 Prove Triangles Similar by SSS and SAS KEY: side | corresponding | proportional  
 BLM: Knowledge NOT: 978-0-618-65613-4
42. ANS: B PTS: 1 DIF: Level B REF: HLGM0665  
 TOP: Lesson 6.6 Use Proportionality Theorems KEY: proportion | similar | triangle  
 BLM: Comprehension NOT: 978-0-618-65613-4
43. ANS: B PTS: 1 DIF: Level B  
 REF: 7f5c9dd2-cdbb-11db-b502-0011258082f7  
 TOP: Lesson 6.6 Use Proportionality Theorems KEY: Parallel lines | transversal | proportion  
 BLM: Comprehension NOT: 978-0-618-65613-4
44. ANS: D PTS: 1 DIF: Level B  
 REF: 62ac7800-4f27-11db-b4d8-0011258082f7  
 TOP: Lesson 6.7 Perform Similarity Transformations KEY: dilation | similar figures  
 BLM: Comprehension NOT: 978-0-618-65613-4

## COMPLETION

1. ANS:  $155^\circ$   
 PTS: 1 DIF: Level B REF: Geo.01.TestB.Eng.21  
 STA: VA.VASOL.MTH.01.GEO.G.3 TOP: Ch. 1 Test, Level B  
 KEY: Pre-made Test BLM: Comprehension  
 NOT: 978-0-618-65613-4
2. ANS:  $102^\circ$   
 PTS: 1 DIF: Level B REF: Geo.01.TestB.Eng.20  
 STA: VA.VASOL.MTH.01.GEO.G.3 TOP: Ch. 1 Test, Level B  
 KEY: Pre-made Test BLM: Comprehension  
 NOT: 978-0-618-65613-4

## SHORT ANSWER

1. ANS:  
 Answers may vary. *Sample answer: H, A, D*  
 PTS: 1 DIF: Level A REF: Geo.01.TestB.Eng.02  
 TOP: Ch. 1 Test, Level B KEY: Pre-made Test  
 BLM: Knowledge NOT: 978-0-618-65613-4
2. ANS:  
 Answers may vary. *Sample answer: H, A, D, C*  
 PTS: 1 DIF: Level A REF: Geo.01.TestB.Eng.03  
 TOP: Ch. 1 Test, Level B KEY: Pre-made Test  
 BLM: Knowledge NOT: 978-0-618-65613-4
3. ANS:  
 Answers may vary. *Sample answer:  $\overleftrightarrow{CE}$  and  $\overleftrightarrow{AB}$*

PTS: 1 DIF: Level A REF: Geo.01.TestB.Eng.04  
TOP: Ch. 1 Test, Level B KEY: Pre-made Test  
BLM: Knowledge NOT: 978-0-618-65613-4

4. ANS:  
*A, D, B; C, D, E*

PTS: 1 DIF: Level A REF: Geo.01.TestB.Eng.01  
TOP: Ch. 1 Test, Level B KEY: Pre-made Test  
BLM: Knowledge NOT: 978-0-618-65613-4

5. ANS:  
 $x = 3$

PTS: 1 DIF: Level B REF: Geo.01.TestB.Eng.05  
TOP: Ch. 1 Test, Level B KEY: Pre-made Test  
BLM: Comprehension NOT: 978-0-618-65613-4

6. ANS:  
 $x = 14$

PTS: 1 DIF: Level B REF: Geo.01.TestB.Eng.06  
TOP: Ch. 1 Test, Level B KEY: Pre-made Test  
BLM: Comprehension NOT: 978-0-618-65613-4

7. ANS:  
9.9 units

PTS: 1 DIF: Level C REF: Geo.01.TestB.Eng.08  
TOP: Ch. 1 Test, Level B KEY: Pre-made Test  
BLM: Comprehension NOT: 978-0-618-65613-4

8. ANS:  
3.6 units

PTS: 1 DIF: Level C REF: Geo.01.TestB.Eng.07  
TOP: Ch. 1 Test, Level B KEY: Pre-made Test  
BLM: Comprehension NOT: 978-0-618-65613-4

9. ANS:  
75°; acute

PTS: 1 DIF: Level B REF: Geo.01.TestB.Eng.10  
TOP: Ch. 1 Test, Level B KEY: Pre-made Test  
BLM: Knowledge NOT: 978-0-618-65613-4

10. ANS:  
60°; acute

PTS: 1 DIF: Level B REF: Geo.01.TestB.Eng.11  
TOP: Ch. 1 Test, Level B KEY: Pre-made Test  
BLM: Knowledge NOT: 978-0-618-65613-4

11. ANS:  
180°; straight

PTS: 1 DIF: Level B REF: Geo.01.TestB.Eng.12

TOP: Ch. 1 Test, Level B                      KEY: Pre-made Test  
BLM: Knowledge    NOT: 978-0-618-65613-4

12. ANS:  
120°; obtuse

PTS: 1                      DIF: Level B                      REF: Geo.01.TestB.Eng.09  
TOP: Ch. 1 Test, Level B                      KEY: Pre-made Test  
BLM: Knowledge    NOT: 978-0-618-65613-4

13. ANS:  
 $(0, -6)$

PTS: 1                      DIF: Level B                      REF: Geo.01.TestB.Eng.13  
TOP: Ch. 1 Test, Level B                      KEY: Pre-made Test  
BLM: Comprehension                      NOT: 978-0-618-65613-4

14. ANS:  
 $(0, 4)$

PTS: 1                      DIF: Level B                      REF: Geo.01.TestB.Eng.14  
TOP: Ch. 1 Test, Level B                      KEY: Pre-made Test  
BLM: Comprehension                      NOT: 978-0-618-65613-4

15. ANS:  
 $(3, -9)$

PTS: 1                      DIF: Level B                      REF: Geo.01.TestB.Eng.15  
TOP: Ch. 1 Test, Level B                      KEY: Pre-made Test  
BLM: Comprehension                      NOT: 978-0-618-65613-4

16. ANS:  
 $m\angle TEF = 37^\circ; m\angle AEF = 37^\circ$

PTS: 1                      DIF: Level B                      REF: Geo.01.TestB.Eng.16  
TOP: Ch. 1 Test, Level B                      KEY: Pre-made Test  
BLM: Comprehension                      NOT: 978-0-618-65613-4

17. ANS:  
 $m\angle TEF = 29^\circ; m\angle TEA = 58^\circ$

PTS: 1                      DIF: Level A                      REF: Geo.01.TestB.Eng.17  
TOP: Ch. 1 Test, Level B                      KEY: Pre-made Test  
BLM: Comprehension                      NOT: 978-0-618-65613-4

18. ANS:  
36

PTS: 1                      DIF: Level B                      REF: Geo.01.TestB.Eng.18  
TOP: Ch. 1 Test, Level B                      KEY: Pre-made Test  
BLM: Comprehension                      NOT: 978-0-618-65613-4

19. ANS:  
4

PTS: 1                      DIF: Level B                      REF: Geo.01.TestB.Eng.19

TOP: Ch. 1 Test, Level B  
BLM: Comprehension

KEY: Pre-made Test  
NOT: 978-0-618-65613-4

20. ANS:

$$m\angle A = 30^\circ; m\angle B = 150^\circ$$

PTS: 1 DIF: Level B  
STA: VA.VASOL.MTH.01.GEO.G.3  
KEY: Pre-made Test  
NOT: 978-0-618-65613-4

REF: Geo.01.TestB.Eng.22  
TOP: Ch. 1 Test, Level B  
BLM: Comprehension

21. ANS:

$$x = 25; y = 29$$

PTS: 1 DIF: Level B  
NAT: NCTM 9-12.GEO.1.a  
TOP: Ch. 1 Test, Level B  
BLM: Comprehension

REF: Geo.01.TestB.Eng.23  
STA: VA.VASOL.MTH.01.GEO.G.3  
KEY: Pre-made Test  
NOT: 978-0-618-65613-4

22. ANS:

$$x = 23; y = 60$$

PTS: 1 DIF: Level B  
NAT: NCTM 9-12.GEO.1.a  
TOP: Ch. 1 Test, Level B  
BLM: Comprehension

REF: Geo.01.TestB.Eng.24  
STA: VA.VASOL.MTH.01.GEO.G.3  
KEY: Pre-made Test  
NOT: 978-0-618-65613-4